

Use of ERTS Data for a Multidisciplinary Analysis of Michigan Resources

ERTS-1 Project 321  
Proposal ORD-1158  
Contract NAS5-21834

Type I Progress Report No. 1, October 1, 1972

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Task I: Analysis of Forests and Related Natural Resources

The major obstacles to progress have been the late launch date of the ERTS satellite and cloudy weather over Michigan during several satellite passes. When these difficulties are taken into account, the status of the project is nominal according to the proposal. To date, no ERTS imagery has been received.

Cooperators in both the U. S. Department of Agriculture, Agricultural Stabilization and Conservation Service and the Forest Service have been most helpful in securing ground truth data. The A. S. C. S. efforts have produced a set of annotated copies of enlarged airphotos showing the location and nature of vegetation types on the holdings of landowners who subscribe to A. S. C. S. programs.

One objective of this project is to explore the possibility of monitoring large-scale forest stresses from satellites. Such a stress has developed on the Manistee National Forest in the form of an infestation of the red-humped oakworm (Symnerista canicosta; Notodontidae). The Forest Service is studying this outbreak, and the results of the study are being made available to the ERTS project as ground truth. Additional ground truth is being and will continue to be collected as needed.

The program of aircraft flights, including both RB-57 and scanner imagery, has been completed for Task I. However, the first of this imagery from Mission 205 flown on June 10, 1972 has only recently been received. This imagery is of excellent quality. It is presently being cataloged by frame for entry into an information retrieval system. This will greatly facilitate distribution of the imagery to the several investigators of project 321 as well as reduce damage to the imagery from continued searching through the rolls.

The first ERTS microfilm catalog has been received. Because of overcast conditions, most frames of Michigan are not useable. However, the late August pass for which data has not yet been released promises to be favorable for Michigan efforts.

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(E72-10162) USE OF DATA FOR A  
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AND RELATED W.L. Myers, et al (Michigan  
State Univ.)

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## Task II: Analysis of Agricultural Crops

The major obstacles to progress have been the late launch date of the ERTS satellite and cloudy weather over Michigan during several satellite passes. When these difficulties are taken into account, the status of the project is nominal according to the proposal. To date, no ERTS imagery has been received.

"Ground truth" information was obtained with the help of the U. S. Department of Agriculture, Agricultural Stabilization and Conservation Service for an 8 x 21 mile test site in Eaton, Ionia, and Clinton Counties. Detailed ground information was obtained for a 2 x 5 mile intensive study area within this larger area.

Imagery from the RB-57 mission flown on June 10, 1972, was only recently received. MSS imagery was obtained from the C-47 overflight on August 25 in conjunction with ERTS orbit no. 459. Upon receipt of ERTS data, a data analysis plan will be formulated.

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This is the first Type I Progress Report (bi-monthly) on "Proposal to Use ERTS Data for a Multidisciplinary Analysis of Michigan Resources" Task III Evaluation of Soils, Soil Conditions, and Landforms

Contract No. NAS 5-21834

No ERTS-A data have yet been received for the test sites in this study. Weather conditions over Michigan have not been satisfactory.

Available ground truth data has been collected in the form of soil and landform maps. The latest available ASCS aerial photos are of hard and recent R.B. 57 flight data (Mission 205, ERTS 279, 321) for the test sites arrived about a week ago. Hopefully some ERTS-A data will be available soon so some comparisons can be made yet this fall.

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## Task III: Evaluation of Soils, Soil Conditions, and Landforms

The major obstacles to progress have been the late launch date of the ERTS satellite and cloudy weather over Michigan during several satellite passes. When these difficulties are taken into account, the status of the project is nominal according to the proposal. To date, no ERTS imagery has been received.

Available ground truth data has been collected in the form of soil and landform maps. The latest available U.S. Department of Agriculture, Agricultural Stabilization and Conservation Service aerial photos and recent RB-57 flight data (Mission 205, ERTS 279, 321) for the test sites has only recently been received. Hopefully some ERTS-1 data will be available soon so some comparisons can be made yet this fall.

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